

**IN THE CLAIMS:**

**Please amend the claims as follows:**

1-30. (cancelled)

31. (new) An article as a computer-readable medium storing data structures of both executable and operational types, the data structures comprising:

    a user interface module configured to present a palette of design elements and support selection and manipulation of one or more design elements from the palette to form a schematic HVAC system;

    a data module containing performance data corresponding to each of the one or more design elements; and

    an analysis module configured to calculate the predicted performance of a system made in accordance with the schematic HVAC system based on the performance data corresponding to each of the one or more design elements.

32. (new) An article as a computer-readable medium storing data structures of both executable and operational types, the data structures comprising:

- an input module configured to receive inputs characterizing design elements connectable to establish an HVAC system in schematic form;
- a design module configured to operate on the inputs to create records reflecting the properties of the design elements and interactions therebetween, as set forth in the HVAC system;
- an analysis module configured to operate on the records and automatically calculate behaviors of a selected design element of the design elements based on the behavior of at least one other design element of the design elements; and
- an output module configured to provide a user-interpretable output corresponding to the HVAC system.

33. (new) The article of claim 32, wherein the data structures further comprise a user interface module configured to receive inputs from a user to control selection, relative positioning, and properties of the design elements to form the HVAC system.

34. (new) The article of claim 33, wherein the input module and user interface module are configured to interface with the design module substantially independently from one another.

35. (new) The article of claim 32, wherein the input module further comprises a user interface module configured to receive inputs from a user to control selection, relative positioning, and properties of design elements of the HVAC system.

36. (new) The article of claim 32, wherein:

the selected design element comprises a product available from a vendor, independent from the article, the product characterized by product properties corresponding thereto; and  
the design module further comprises a specification module, executable to assign the product properties as the properties of the selected design element.

37. (new) The article of claim 36, wherein the data structures further comprise a product module configured to manage data reflecting the product properties.

38. (new) The article of claim 37, wherein the product module further comprises an updating module configured to update the product properties.

39. (new) The article of claim 36, wherein the data structures further comprise a communication module configured to automatically establish communication between a user and the vendor of the product.

40. (original) The article of claim 39, wherein the communication module is further configured to do at least one of making inquiries of the vendor, placing orders with the vendor, and downloading updated values of the product properties from the vendor.

41. (new) The article of claim 32, wherein the data structures further comprise a load module configured to provide, to the input module, HVAC loading parameters required to be accommodated by the HVAC system.

42. (new) The article of claim 41, wherein the data structures further comprise a CAD module configured to provide, to the input module, data reflecting a design of an edifice.

43. (new) The article of claim 42, wherein the data structures further comprise a product module configured to specify products available for sale and meeting requirements to be the design elements.

44. (new) The article of claim 43, wherein the data structures further comprise a compensation module configured to identify monetary compensation due to a user from vendors of the products specified as design elements in the HVAC system.

45. (new) The article of claim 32, wherein the input module is further configured to interact with:

a CAD module provided by an independent third party to provide, to the input module, data reflecting a design of an edifice;

a load module configured to receive outputs from the CAD module and provide, to the input module, HVAC loading parameters corresponding to the edifice; and

a vendor module, provided by an independent vendor and configured to specify products available for sale and meeting the requirements to be the design elements.

46. (new) The article of claim 32, wherein the output module is further configured to do at least one of generating reports, drawing schematic illustrations, providing schedules of components, and providing performance analyses reflecting the design elements.

47. (new) The article of claim 32, wherein the data structures further comprise a product module comprising a specification module configured to provide a detailed specification for an arbitrary number of selected design elements.

48. (new) The article of claim 47, wherein:

the product module further comprises product data corresponding to products available from vendors to serve as the design elements, and

the specification module further comprises a filter module configured to sort the products by features thereof and priorities of the features, each selectable by a user, in order to automatically specify detailed parameters characterizing a product selected by a user to serve as the selected design element.

49. (new) The article of claim 48, wherein the user interface further comprises a selection module providing a palette of icons representing design elements selectable arbitrarily by a user and connectable to one another in a schematic work space to establish the HVAC system design.

50. (new) A method for designing an HVAC system, the method comprising:

selecting a computer running a first software application configured to present to a user a palette of design elements and support selection and manipulation of one or more design elements from the palette to form a schematic HVAC system, the computer further storing performance data corresponding to each the one or more design elements;

using the computer to manipulate one or more design elements from the palette to form a schematic HVAC system; and

relying substantially exclusively on the computer to calculate a predicted performance of an actual HVAC system made in accordance with the schematic HVAC system.

51. (new) The method of claim 50, further comprising using the computer to create a schedule of parts corresponding to the schematic HVAC system.

52. (new) The method of claim 51, further comprising relying on the computer to provide a list of actual products with performance parameters corresponding to one or more of the design elements contained in the schematic HVAC system.

53. (new) The method of claim 52, further comprising relying on the computer to automatically downloading information from selected vendors to generate the list of actual products.

54. (new) The method of claim 50, wherein selecting a computer further comprises selecting a computer running a second software application configured to calculate HVAC loads for an edifice and further comprising inputting the HVAC loads into the first software application.